

# Attachment A to Resolution No. R10-XXX

## Amendment to the Water Quality Control Plan – Los Angeles Region to incorporate the TMDL for Indicator Bacteria in the Santa Clara River Estuary and Reaches 3, 5, 6, and 7

Adopted by the California Regional Water Quality Control Board, Los Angeles Region on July 9, 2010.

### Amendments:

#### Table of Contents

Add:

Chapter 7. Total Maximum Daily Loads (TMDLs) Summaries  
7-36 Santa Clara River Estuary and Reaches 3, 5, 6, and 7 Indicator Bacteria TMDL

#### List of Figures, Tables, and Inserts

Add:

Chapter 7. Total Maximum Daily Loads (TMDLs)  
Tables  
7-36 Santa Clara River Estuary and Reaches 3, 5, 6, and 7 Indicator Bacteria TMDL  
7-36.1 Santa Clara River Estuary and Reaches 3, 5, 6, and 7 Indicator Bacteria TMDL:  
Elements  
7-36.2. Santa Clara River Estuary and Reaches 3, 5, 6, and 7 Indicator Bacteria TMDL:  
Allowable Exceedance Days  
7-36.3. Santa Clara River Estuary and Reaches 3, 5, 6, and 7 Indicator Bacteria TMDL:  
Implementation Schedule

**Chapter 7. Total Maximum Daily Loads (TMDLs)  
Santa Clara River Estuary and Reaches 3, 5, 6, and 7 Indicator Bacteria TMDL**

This TMDL was adopted by the Regional Water Quality Control Board on July 9, 2010.

This TMDL was approved by:

The State Water Resources Control Board on **[Insert Date]**.  
The Office of Administrative Law on **[Insert Date]**.  
The U.S. Environmental Protection Agency on **[Insert Date]**.

This TMDL is effective on **[Insert Date]**.

The following tables include the elements of this TMDL.

## Attachment A to Resolution No. R10-XXX

**Table 7-36.1. Santa Clara River Estuary and Reaches 3, 5, 6, and 7 Indicator Bacteria TMDL: Elements**

Element	Key Findings and Regulatory Provisions																																	
<b>Problem Statement</b>	Elevated bacterial indicator densities are causing impairment of the water contact recreation (REC-1) beneficial use designated for the Santa Clara River Estuary and Reaches 3, 5, 6, and 7. Recreating in waters with elevated bacterial indicator densities has long been associated with adverse human health effects. Specifically, local and national epidemiological studies demonstrate that there is a causal relationship between adverse health effects and recreational water quality, as measured by bacterial indicator densities.																																	
<b>Numeric Target</b>  (Interpretation of the numeric water quality objective, used to calculate the waste load and load allocations)	<p>The TMDL will have multi-part numeric targets based on the bacteria water quality objectives for marine and fresh waters designated for water contact recreation (REC-1) set forth in Chapter 3. Both single-sample and geometric mean objectives apply.</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th style="text-align: center;">Numeric Targets</th> <th style="text-align: center;">SCR Estuary (Marine REC-1)</th> <th style="text-align: center;">SCR Reaches 3, 5, 6 and 7 (Freshwater REC-1)</th> </tr> </thead> <tbody> <tr> <td><i>Single Sample</i></td> <td></td> <td></td> </tr> <tr> <td>E. coli</td> <td>NA</td> <td>235/100ml</td> </tr> <tr> <td>Fecal coliform</td> <td>400/100ml</td> <td>NA</td> </tr> <tr> <td>Enterococcus</td> <td>104/100ml</td> <td>NA</td> </tr> <tr> <td>Total coliform*</td> <td>10,000/100ml</td> <td>NA</td> </tr> <tr> <td><i>Geometric mean</i></td> <td></td> <td></td> </tr> <tr> <td>E. coli</td> <td>NA</td> <td>126/100ml</td> </tr> <tr> <td>Fecal coliform</td> <td>200/100ml</td> <td>NA</td> </tr> <tr> <td>Enterococcus</td> <td>35/100ml</td> <td>NA</td> </tr> <tr> <td>Total coliform</td> <td>1,000/100ml</td> <td>NA</td> </tr> </tbody> </table> <p>*Total coliform density shall not exceed 1,000/100 ml, if the ratio of fecal-to-total coliform exceeds 0.1. NA: not applicable.</p> <p>The Basin Plan objectives and these targets are based on an acceptable health risk for recreational waters of 8-19 illnesses per 1,000 exposed individuals, as recommended by the US EPA (USEPA, 1986).</p> <p>To implement the single sample bacteria objectives for waters designated REC-1, and to set allocations based on the single sample targets, an allowable number of exceedance days is set for marine and fresh waters. The numeric targets in the TMDL are expressed as 'allowable exceedance days' since bacterial density and the frequency of exceedances is most relevant to public health.</p> <p>The allowable number of exceedance days is based on the more stringent of two criteria (1) exceedance days in the designated reference system and (2) exceedance days based on historical bacteriological data in the subject reach. This ensures that bacteriological water quality is at least as good as that of a largely undeveloped system and that there is no degradation of existing water quality. This approach recognizes that</p>	Numeric Targets	SCR Estuary (Marine REC-1)	SCR Reaches 3, 5, 6 and 7 (Freshwater REC-1)	<i>Single Sample</i>			E. coli	NA	235/100ml	Fecal coliform	400/100ml	NA	Enterococcus	104/100ml	NA	Total coliform*	10,000/100ml	NA	<i>Geometric mean</i>			E. coli	NA	126/100ml	Fecal coliform	200/100ml	NA	Enterococcus	35/100ml	NA	Total coliform	1,000/100ml	NA
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## Attachment A to Resolution No. R10-XXX

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	<p>there are natural sources of bacteria that may cause or contribute to exceedances of the single sample objectives and that it is not the intent of the Regional Board to require treatment or diversion of natural creeks or to require treatment of natural sources of bacteria from undeveloped areas.</p> <p>For the single sample targets, the Estuary and Reaches 3, 5, 6, and 7 are assigned an allowable number of exceedance days for dry weather and wet weather (defined as days with 0.1 inch of rain or greater and the three days following the rain event) as set forth in Table 7-36.2</p> <p>The geometric mean targets may not be exceeded at any time.</p>
<b>Source Analysis</b>	<p>The major contributors of bacteria loading to the SCR and Estuary are dry- and wet-weather urban runoff discharges from the storm water conveyance system. Mass emission data collected by MS4 Permittees show elevated levels of bacteria in the river. Limited data from natural landscapes in the watershed indicate that open space loading is not a likely source of bacteria. Data from storm drains and channels draining urban areas show elevated levels of bacteria, indicating that urban areas are a source. Data from throughout the Los Angeles Region further demonstrate that bacteria concentrations are significantly greater in developed areas. A calculation of bacteria loadings in the SCR shows that average annual loadings from wastewater treatment plants are significantly less than wet-weather loadings and that most of the annual bacteria loading to the SCR is associated with wet weather. Based on this information, staff concludes that runoff from urban areas served by the storm drain system is most likely the largest source of bacteria.</p> <p>Other point and nonpoint sources were analyzed and found to be less significant or there were not enough data to quantify their contribution.</p>
<b>Waste Load Allocations (for point sources)</b>	<p>MS4 permittees are assigned WLAs equal to allowable exceedances days listed in Table 7.36.2.</p> <p>The Saugus water reclamation plant (WRP), Valencia WRP, Fillmore wastewater treatment plant (WTP), Santa Paula water reclamation facility (WRF), and Ventura WRF are each assigned WLAs of zero (0) allowable exceedance days of the single sample targets for both dry and wet weather and no exceedances of the geometric mean targets. The Newhall WRP is also assigned a WLA of zero (0) allowable exceedance days of the single sample target for both dry and wet weather and no exceedances of the geometric mean target.</p> <p>General NPDES permits, individual NPDES permits, the Statewide Industrial Stormwater General Permit, the Statewide Construction Activity Stormwater General Permit, and the Statewide Stormwater Permit for Caltrans Activities are assigned WLAs of zero (0) allowable exceedance days of the single sample targets for both dry and wet weather and no exceedances of the geometric mean targets.</p>

## Attachment A to Resolution No. R10-XXX

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<b>Load Allocations (for nonpoint sources)</b>	LAs are equal to allowable exceedance days listed in Table 7.36.2.
<b>Margin of Safety</b>	By directly applying the water quality standards and implementation procedures as WLAs and LAs, there is little uncertainty about whether meeting the TMDLs will result in meeting the water quality standards.
<b>Seasonal Variations and Critical Conditions</b>	<p>Seasonal variations are addressed by developing separate allocations for dry weather and wet weather based on public health concerns and observed natural background levels of exceedance of bacterial indicators.</p> <p>The critical condition for bacteria loading is during wet weather. This is because intermittent or episodic loading from sources such as urban runoff can have maximal impacts at high (i.e. storm) flows. Local and Bight-wide shoreline monitoring data show a higher percentage of daily exceedance of the single sample targets during wet weather, as well as more severe bacteriological impairments indicated by higher magnitude exceedances and exceedances of multiple indicators. Based on monitoring, this also appears to be the case for the SCR Estuary and Reaches 3, 5, 6, and 7.</p> <p>The 90th percentile storm year in terms of wet days at a rain gage in the SCR watershed was used as the reference year. The 90th percentile year was selected for several reasons. First, selecting the 90th percentile year avoids an untenable situation where the reference system is frequently out of compliance. Second, selecting the 90th percentile year allows responsible jurisdictions and responsible agencies to plan for a ‘worst-case scenario’, as a critical condition is intended to do.</p>
<b>Implementation</b>	<p>The regulatory mechanisms used to implement the TMDL will include general NPDES permits, individual NPDES permits, MS4 Permits covering jurisdictions within the SCR watershed, the Statewide Industrial Storm Water General Permit, the Statewide Construction Activity Storm Water General Permit, the Statewide Stormwater Permit for Caltrans Activities, the Conditional Waiver for Irrigated Lands, WDRs, waivers of WDRs, the authority contained in Sections 13263, 13267, and 13269 of the Cal. Water Code, and other appropriate mechanisms.</p> <p>WLAs for point sources will be implemented through NPDES permits. Each NPDES permit assigned a WLA shall be reopened or amended at re-issuance, in accordance with applicable laws, to incorporate the assumptions and requirements of applicable WLAs as permit requirements.</p> <p>The cities of Santa Clarita, Fillmore, Santa Paula, and Ventura, and the Counties of Los Angeles and Ventura are responsible for meeting the WLAs assigned to MS4 discharges. The cities and the counties may individually or jointly decide how to achieve the WLAs. Responsible</p>

## Attachment A to Resolution No. R10-XXX

Element	Key Findings and Regulatory Provisions
	<p>parties must provide an Implementation Plan to the Regional Board outlining how each intends to individually or cooperatively achieve compliance with the WLAs. The report shall include implementation methods, an implementation schedule, and proposed milestones. The plan shall include a technically defensible quantitative linkage to the WLAs. The plan shall include quantitative estimates of the water quality benefits provided by the proposed implementation approach.</p> <p>Other dischargers are individually responsible for their WLAs.</p> <p>LAs for irrigated agricultural lands will be implemented through the Conditional Waiver for Irrigated Lands (Order No. R4-2005-0080) or other order. LAs for onsite wastewater treatment systems will be implemented through WDRs or waivers of WDRs. LAs for other nonpoint sources will be implemented through the Nonpoint Source Enforcement Policy.</p>
<b>Monitoring</b>	<p>Responsible jurisdictions and agencies for the MS4 WLAs are jointly responsible for developing and implementing a comprehensive monitoring plan to assess compliance with the waste load allocations in the TMDL. The monitoring plan should include all applicable bacteria water quality objectives and the sampling frequency must be adequate to assess compliance with the 30-day geometric mean objectives. Responsible jurisdictions and agencies may build upon existing monitoring programs in the SCR watershed when developing the bacteria water quality monitoring plan. At a minimum, at least one sampling station shall be located in each impaired reach.</p> <p>Monitoring in the SCR Estuary and Reaches 3, 5, 6, and 7 is required to assess attainment of the geometric mean targets and allowable exceedance days of the single sample targets. All responsible jurisdictions and responsible agencies are ultimately accountable for ensuring that these monitoring requirements are met.</p> <p>If the number of exceedance days is greater than the allowable number of exceedance days, the responsible jurisdictions and/or responsible agencies shall be considered not attaining the WLAs. Responsible jurisdictions or agencies shall not be deemed non-attaining if the investigation described in the paragraph below demonstrates that bacterial sources originating within the jurisdiction of the responsible agency have not caused or contributed to the exceedance.</p> <p>If an in-stream location is non-attaining as determined in the previous paragraph, the Regional Board shall require responsible agencies to initiate an investigation, which at a minimum shall include daily sampling at the existing monitoring location until all single sample events meet bacteria water quality objectives.</p> <p>NPDES Permittees other than MS4 dischargers shall conduct monitoring for all applicable bacteria water quality objectives to ensure</p>

## Attachment A to Resolution No. R10-XXX

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	<p>that they are attaining WLAs and water quality objectives are being met. NPDES permits for the Saugus and Valencia WRPs shall include effluent monitoring for <i>E. coli</i> and the NPDES permit for the Ventura WRF shall include effluent monitoring for total coliform, fecal coliform, and enterococcus.</p> <p>The Conditional Waiver for Irrigated Lands shall require bacteria monitoring for discharges from irrigated agricultural lands.</p> <p>Monitoring shall be implemented as part of WDR and waiver requirements, and through implementation of the Nonpoint Source Enforcement Policy, for other nonpoint sources.</p>

## Attachment A to Resolution No. R10-XXX

**Table 7-36.2 Santa Clara River Estuary and Reaches 3, 5, 6, and 7 Indicator Bacteria TMDL: Allowable Exceedance Days.**

Time Period	Santa Clara River Reaches 3, 5, 6, & 7	Santa Clara River Estuary
Dry Weather	5 allowable exceedance days of single sample objectives  0 allowable exceedances of geometric mean objectives	Not Applicable
Wet Weather	16 allowable exceedance days of single sample objectives  0 allowable exceedances of geometric mean objectives	25 allowable exceedance days of single sample objectives  0 allowable exceedances of geometric mean objectives
Summer Dry Weather (April 1 – October 31)	Not Applicable	10 allowable exceedance days of single sample objectives  0 allowable exceedances of geometric mean objectives
Winter Dry Weather (November 1 – March 31)	Not Applicable	12 allowable exceedance days of single sample objectives  0 allowable exceedances of geometric mean objectives

## Attachment A to Resolution No. R10-XXX

**Table 7-36.3 Santa Clara River Estuary and Reaches 3, 5, 6, and 7 Indicator Bacteria TMDL: Implementation Schedule**

Deadline	Task
Effective date of the TMDL	WLAs assigned to non-MS4 point sources must be attained.
Six months after the effective date of the TMDL	Responsible jurisdictions and agencies for the MS4 WLAs must submit a comprehensive bacteria water quality monitoring plan for the SCR Watershed. The plan must be approved by the Executive Officer before the monitoring data can be considered during the implementation of the TMDL. Once the coordinated monitoring plan is approved by the Executive Officer, monitoring shall commence within 6 months.
3 years after the effective date of this TMDL	Responsible jurisdictions and agencies for the MS4 WLAs shall submit a draft Implementation Plan to the Regional Board outlining how each intends to cooperatively or individually achieve compliance with the WLAs. The report shall include implementation methods, an implementation schedule, and proposed milestones.
3 months after receipt of Regional Board comments on the draft Implementation Plan	Responsible jurisdictions and agencies for the MS4 WLAs shall submit a final Implementation Plan.
8 years after effective date of this TMDL	<p>For SCR Estuary: Achieve compliance with the applicable LAs and MS4 WLAs, expressed in terms of geometric mean objectives and allowable exceedance days of the single sample objectives for summer dry weather (April 1 to October 31) and winter dry weather (November 1 to March 31).</p> <p>For SCR Reaches 3, 5, 6, and 7: Achieve compliance with the applicable LAs and MS4 WLAs, expressed in terms of geometric mean objectives and allowable exceedance days of the single sample objectives and for dry weather.</p>
14 years after the effective date of this TMDL	For SCR Estuary and Reaches 3, 5, 6, and 7: Achieve compliance with the applicable LAs and MS4 WLAs, expressed in terms of geometric mean objectives and allowable exceedance days of the single sample objectives for wet weather.